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## LEVI COFFIN.

THE Coffyns or Coffins are a Devonshire family, said to have been founded by one of the followers of the Conqueror. In 1642 Tristram Coffyn, a son of this old house, sailed from Plymouth for New England, taking with him his wife and five children, his mother and two sisters. He settled at Salisbury, in the colony of Massachusetts, and his descendants are now to be found in many of the States. Several of them have won themselves a name of note in the service of their country; but none has a higher claim to the remembrance, not only of their fellow-citizens but of all who honour worth wherever it is to be found, than Levi Coffin, whose memoirs lie before us under the title of *Reminiscences of Levi Coffin, the Reputed President of the Underground Railroad, being a brief History of the Labours of a Lifetime on behalf of the Slave* (London: Sampson Low, 1876). His tale, told in plain homely language, is a stirring one, and shews us a phase of American life which is happily a thing of the past; for now that slavery is abolished there is no longer any need for the devoted labours of the true-hearted men who by means of the once famous 'Underground Railroad' helped the fugitive slave on his way to the land of freedom—over the Canadian border and into British territory, where, and where only, he was safe from kidnappers and hunters.

Levi Coffin was born in 1798. His father was a member of a colony of the Society of Friends, settled at New Garden in North Carolina; and he himself has always belonged to that religious profession. One day when he was about seven years old he was standing beside his father, who was chopping up some wood at a little distance from the house. Along the road came a coffin or gang of slaves, chained in couples on each side of a long chain which extended between them. At some distance behind came the slave-dealer with a wagon-load of supplies. Levi's father spoke pleasantly to the slaves. 'Well boys,' he said, 'why do they chain you?' One of them replied for the rest: 'They have taken us away from our wives

and children, and they chain us lest we should make our escape and go back to them.' The gang tramped off along the dusty road; and in answer to the child's eager questions, his father told him what slavery was; and little Levi endeavoured to realise the troubles of the poor men he had just seen, by thinking—'How terribly we should feel if father were taken away from us!'

This was the first outbreak of a feeling which influenced his whole life. He began his work early. At fifteen years of age he was the means of enabling a slave—who had been kidnapped near Baltimore and brought into North Carolina—to escape from the slave-dealer's gang. He was also often of service to runaway slaves, who used to conceal themselves in the daytime in the woods and thickets near his father's house at New Garden, by going out to them with a small store of provisions, which he distributed to those he found there.

In 1826 Levi Coffin removed to Newport, Indiana, where he took a shop and began business. He was soon a prosperous man; and ten years after he was able to set up a large oil-factory. His place in Newport soon became one of the 'stations' of the Underground Railroad. This was a secret organisation for facilitating the escape of slaves from the Southern States to Canada. It was neither planned nor organised by any one man; it had grown up gradually, to supply a want felt by the Abolitionist party. A slave escaped from a plantation would without it have no means of travelling rapidly, of obtaining relief, or of finding friends to conceal him, and his hope of safety would depend only upon a series of lucky chances and accidents. Gradually, however, along the routes by which the slaves usually escaped certain houses came to be known as those to which the fugitives could safely apply for assistance. These routes were in the secret language of the U. G. R. R. (Underground Railroad) known as lines, and the houses were called 'stations.' In course of time the lines were so well organised that in every town along the route there was a director who had at his command a number of

hiding-places for slaves, funds collected for their relief, wagons for passing them on by night to the next station, and means of acquiring information as to any pursuit that might be attempted.

'I kept,' says Levi Coffin, 'a team and wagon always at command, to convey the fugitive slaves on their journey. These journeys had to be made at night, often through deep and bad roads, and along by-ways that were seldom travelled. Every precaution to evade pursuit had to be used, as the hunters were often on the track, and sometimes ahead of the slaves. We had different routes for sending the slaves to depôts ten, fifteen, or twenty miles distant; and when we heard of slave-hunters having passed on one road, we forwarded our passengers by another. Sometimes we learned that the pursuers were ahead of them; and we sent a messenger and had the fugitives brought back to my house, to lie in concealment till they had lost the trail. . . . Three principal lines from the south converged at my house—one from Cincinnati, one from Madison, and one from Jeffersonville, Indiana. There was no lack of passengers. Seldom a week passed without our receiving them. We knew not what night or what hour of the night we would be roused from slumber by a gentle rap at the door; that was the signal announcing the arrival of a train of the U.G.R.R. I have often been awaked by this signal, and sprung out of bed in the dark and opened the door. Outside in the cold or rain there would be a two-horse wagon loaded with fugitives, perhaps the greater part of them women and children. When they were all safely inside and the door fastened, I would cover the windows, strike a light, and build a good fire. By this time my wife would be up and preparing victuals for them; and in a short time the cold and hungry fugitives would be made comfortable. I would accompany the conductor of the train' [that is, the driver of the wagon; in America the guard of a railway train is always called the conductor] 'to the stable, and care for the horses, that had perhaps been driven twenty-five or thirty miles that night through the cold and rain. The fugitives would rest on pallets before the fire the rest of the night. The companies varied in number from two or three to seventeen fugitives.'

Such was the work which for twenty years this good man carried on in Newport. He had often to set his wits hard at work to foil the slave-hunters, and more than once ran serious personal risk. The whole undertaking must have cost him a heavy expenditure of time, labour, and money. But he was not content with this. He organised in Newport a store where cotton goods were sold that had been manufactured entirely by free labour; and for this purpose took a journey to the South to establish relations with planters who employed only freemen. He and his friends then formed a league, each member of which bound himself to purchase no goods on the production of which slaves had been employed.

In 1847 he removed to Cincinnati, and took charge of one of the most important points in the system of the U.G.R.R. Cincinnati is built on the northern bank of the Ohio River, and thus stood on the very frontier of the slave-land, the opposite shore belonging to the slave state of Kentucky. Here his work went on for about

fifteen years, till the war put an end to slavery in the United States. He tells in his *Reminiscences* many a stirring story of the escape of fugitives that he passed on to Canada. For these we must refer our readers to the book itself. He was so active, enterprising, and successful that he received the name of 'President of the Underground Railroad.' Everywhere he had the fullest confidence reposed in him by the coloured people; and often those who had escaped to Canada would send him their savings, to be employed in buying their relatives and friends out of captivity in the South by a fair bargain with the planters. It may be safely said that his whole life was passed in the cause of promoting the freedom of the slave; and he always found willing helpers and allies, mostly men of his own religious persuasion. He always confined his operations to concealing the slaves that came or were brought to him, and helping them upon their way to Canada or to some free state. He would never actually lure a slave from a plantation; and he condemned any active or forcible resistance to the law, even when it was exercised upon the side of slavery.

A man of quite a different stamp was John Fairfield, another agent of the Underground Railroad, but whom Levi Coffin with his Quaker peace principles could never forgive for making the revolver an auxiliary in his work. 'With all his faults,' he says, 'and misguided impulses and wicked ways, Fairfield was a brave man; he never betrayed a trust that was reposed in him, and he was a true friend to the oppressed and suffering slave.' Fairfield was a Virginian; and his earliest exploit had been to run away to Canada from his uncle's plantation taking one of the slaves with him. From that time till he died he passed an adventurous life, visiting once or twice in the year Virginia or Kentucky, establishing relations with the slaves upon a plantation, and then leading them to Canada. He was soon known to many of the refugees settled there, and they would ask him to bring them their relatives from the Southern plantations, sometimes offering him money they had saved as payment for his exertions.

'Fairfield,' says Levi Coffin, 'was a young man without family, and was fond of adventure and excitement. He wanted employment, and agreed to take the money offered by the fugitives and engage in the undertaking. He obtained the names of masters and slaves, and an exact knowledge of the different localities to be visited, then acted as his shrewd judgment dictated under different circumstances. He would go South, into the neighbourhood where the slaves were whom he intended to conduct away, and under an assumed name and a false pretence of business, would board perhaps at the house of the master whose stock of valuable property he intended to decrease. He would proclaim himself to be a Virginian, and profess to be strongly pro-slavery in his sentiments, thus lulling the suspicions of the slaveholders, while he established a secret understanding with the slaves, gaining their confidence, and making arrangements for their escape. Then he would suddenly disappear from the neighbourhood, and several slaves would be missing at the same time. Fairfield was always ready to take money for his services from the slaves if they had it to offer; but if they had not he helped them all the same. He was equally ready to spend it

in the same cause, and if necessary would part with his last dollar to effect his object.

Often he would bring a negro or two with him, who would act as his slaves, and whom he would pretend to treat very roughly. These would act as his intermediaries with the men he hoped to rescue. On one occasion he rescued a large number of men from the salt-works on the Kanawha River in Virginia. He assumed the character of a salt-dealer, and had two large boats built on the river for his business. When the boats were finished, a crowd of negroes escaped in them down the river towards the Ohio. As soon as the alarm was given, he pretended to be very anxious to aid in recapturing his boats and the escaped slaves. He rode off at the head of the pursuers, directed the chase, and when they found the abandoned boats on the river-bank, he suggested that they should scatter in various directions, and meet in a few hours to report if they had got any traces of the fugitives. He never appeared at the rendezvous; he had joined the slaves at a previously appointed spot, and was conducting them to one of the stations on the Underground Railroad *en route* for Canada. He generally marched at night, and rested in concealment in the daytime.

Often on these journeys he had to fight his way through patrols of slave-hunters. One moonlight night he had a narrow escape. The patrollers had found his track, and gathered a body of armed men, and lay in ambush waiting for him at both ends of a bridge which his party of fugitives had to cross. Fairfield always armed his men with revolvers, and told them that he would shoot down any one who would not fight for his freedom. On this occasion he was taken by surprise. As the party gained the centre of the bridge they were fired upon from both ends of it. 'They thought, no doubt,' said Fairfield, 'that this sudden attack would intimidate us, and that we would surrender; but in this they were mistaken. I ordered my men to charge to the front, and they did charge. We fired as we went, and the men in ambush scattered and ran like scared sheep.' Fairfield's clothes were torn by balls, and he and one of his party were slightly wounded. Levi reproved him for trying to kill any one, and told him that we should love our enemies. Fairfield's reply was characteristic. 'Love our enemies, indeed! I do not intend to hurt people if they keep out of the way; but if they step in between me and liberty they must take the consequences.' Levi naively adds: 'I saw it was useless to preach peace principles to Fairfield.' Such a man could only have one end. There is reason to believe that shortly before the outbreak of the war in 1861 he was detected arming the negroes in Tennessee, and was lynched by a Southern mob. He had been twelve years engaged in his daring work among the plantations.

The abolition of slavery by the war did not put an end to Levi Coffin's labours for the negroes; it only gave them another form. It became necessary to provide for the thousands to whom a sweeping measure of emancipation had given their freedom and nothing more, in many cases casting them adrift upon the world without any resource, for at the end of the war trade was bad and employment scarce. Relief societies for the freedmen were formed throughout the States. Levi Coffin took a leading part in this work; and when it was decided

to send a delegate to ask for aid from England, he was chosen for this important post. In the summer of 1864 he arrived in London with credentials and introductions to various public men. At his first meeting held in London for the freedmen he was supported by Messrs John Bright, W. E. Forster, Samuel Gurney, and other members of parliament. A second meeting followed at Mr Gurney's house. Levi Coffin notes with satisfaction that 'it was quite aristocratic in character, being largely composed of lords, dukes, bishops, and members of parliament.' A London Freedmen's Aid Society was organised with several prominent men upon its committee. Branches were established and meetings held throughout England and Ireland. Levi Coffin spoke at all these meetings. Perhaps many of our readers will remember having heard him.

Having finished his work in England, he went over to France and continued it there; and when, after having been more than twelve months in Europe, he returned to Cincinnati in 1865, he had the satisfaction of knowing that his journey had borne rich fruit for the freedmen. He paid another visit to Europe in 1867 as a delegate to an Anti-slavery Congress in Paris. With the account of this journey his book of interesting *Reminiscences* concludes. We heartily recommend it to our readers. If nothing else, it shews how much one earnest man can accomplish in a lifetime for a cause that he has thoroughly at heart.

## HELENA, LADY HARROGATE.

### CHAPTER XXIX.—FOUND.

By some seeming irony of Fate, it is when our fortunes have ebbed to their lowest, and all seems cold, bleak, and dreary in the threatening horizon before us, that light begins to break in upon the oppressive darkness. That we are never so likely to fall as when we deem ourselves to stand in boastful security, proud of our seeming strength, is a truth which the historical student will not be slow to recognise. Down comes the thunderbolt from a clear sky, toppling over to shameful ruin the gilded image propped on feet of sorry clay. But there is a substratum of fact whereon is reared the homely proverb which declares that when things are at the worst they will mend.

For all that, we cannot wrap ourselves in a comfortable mantle of indolent fatalism, assured that our shortcomings will be compensated by some extraordinary turn of Fortune's wheel. It so happens that we are often too dull of vision to know the heavenly messenger when we see him. Our deaf ears fail to catch the strain of hope. We miss the tide that offered to bear our argosy to port. The grass grows, but the steed, all unwitting of the green meadow hard by, starves within a stone's throw of plenty. Chatterton was not the only one who, goaded by despair, has taken the leap in the dark at the very moment when kind hands were held out to lead the truant into the goodly fellowship of honest men. A great hush and stillness had fallen upon those who were shut up in the Hunger Hole. There was that in the situation which forbade useless words. It was getting late. There was every probability of spending the night and the morrow in that dismal place. That amount of imprisonment entailed



cold and misery, perhaps an attack of marsh-fever, since the air from Bitternley Swamp was likely to be fraught with the seeds of ague. But twenty-four hours—thirty-six hours—might not see the end of the captivity of Ethel and Lady Alice, and in that case—

How strange that any one should run the risk of being starved to death, in this blatant nineteenth century of ours, when road and rail, gas and press, have opened up so many an old-world nook, and dragged so many an abuse into the killing light of day. Yet Dartmoor remains Dartmoor, and it is quite possible to be smothered in its snows, sunk in its swamps, or to wander among its blinding mists until the deadly chill of fatigue benumbs the wearied limbs, for there are wildernesses yet where Nature is more than a match for man.

The fickle beauty of the day had not lasted. Clouds went driving by; that much could be distinguished by gazing up through the narrow space which weeds and leaves left free. And presently it began to rain, and the moaning wind grew shrill, and rushed with strange and mournful dissonance through the recesses of the cavern. 'It is all my fault—mine!' sobbed Lady Alice, nestling at Ethel's side. 'I would not say a word, before starting, about the Hunger Hole, for fear the elders should object; and now I am caught in my own trap. It's very hard on you though, Miss Gray.'

Ethel bore up bravely, but she was far from feeling the calm that she affected. Perhaps Lady Alice was too positive in her conviction of the hopelessness of their condition; but if the attention of the seekers was diverted into false channels, who could tell what might result before a happy accident should bring aid? It was for her pupil that she feared, not for herself. In the event of long detention in that wretched place, a large-eyed, excitable slip of a girl, of high spirit but delicate temperament, could scarcely be expected to endure hardships which Ethel, in the bloom of perfect health, might be able to support. It was growing late, and perceptibly colder. Night would be upon them soon, and then—

And then the morrow would dawn laggingly, and hope would leap up a little at the sight of welcome daylight, and flag and droop as the hours went by and relief came not. That Lady Alice could live through a second night in that chill atmosphere of the cave, and without sustenance, Ethel did not believe.

'How cold it strikes!' said the young girl almost peevishly, as she shivered and pressed closer to Ethel. 'I am afraid though,' she added, more gently after a while, 'that we shall be colder yet before the end of this.'

As the moaning wind swept by, and the patter of the rain that lashed the outer walls of the grotto grew louder, Ethel listened, with a sense of hearing which her anxiety had sharpened, for any sound that might indicate that help was near. But no! There was nothing to be distinguished save the beating of the rain, the mournful cadence of the wind, and the dull regular drip of the water that trickled from the spring, and fell deep down, to the hidden waters at the bottom of the abyss.

Was that the tread of a horse? Fancy plays strange tricks with those who watch, but surely that sound resembled nothing so much as the quick beat of hoofs upon grass or heather.

Then the sound ceased, and a long tantalising pause succeeded. Ethel began to imagine that her senses must have played her false. No; for the rattling of loose stones, disturbed by a human foot, at the outer portal of the Hunger Hole, came at last to confirm the first impression that a horse's tramp had really sounded near, and then a man's form darkened the doorway between the two caves.

'Alice, look up! We are found!' cried Ethel, starting from the rocky bench; and almost at the same instant a voice, the very sound of which sent the blood madly coursing through her veins, exclaimed: 'There is some one here then. Alice—Miss Gray, can it be you? Ah! I see how it is,' added the speaker, as his further progress was barred by the gaping chasm, while his foot struck against a fragment of the broken bridge, yet clinging to its rusted holdfast in the rock. The voice was Lord Harrogate's.

'What good angel sent you to our help, brother?' said young Lady Alice, laughing and crying all at once, now that the tension of her overstrained nerves had slackened.

'She is a moorland angel, and here she is to answer for herself,' returned the young man, as Betty Mudge, hot and panting, appeared beside him in the entrance of the cavern. 'This good girl must have wings, I think, as well as a sharp pair of eyes. She almost kept up with my horse as we crossed the moorland, avoiding Bitternley Swamp, where *Bay Middleton* could never have made his way over the treacherous peat-hags. I can guess now how this awkward business happened.'

'But how to get at you, now I have found you!' added Lord Harrogate in some perplexity, after a pause. It was provoking, to be baffled by the eleven feet of sheer black emptiness that lay between the wet outer grotto and the dry inner compartment of the cave.

'Some one will perhaps arrive before long. A plank put across the gap would set us free,' said Ethel, advancing to the edge of the chasm.

'I wanted to jump it, but Miss Gray would not let me try,' called out Lady Alice.

'And Miss Gray was quite right, Miss Madcap,' answered her brother, scanning the width of the abyss. 'An uglier jump, or a less inviting, I never saw—at all events for a young lady to venture on. The worst of it is, that nobody excepting myself and this excellent Betty Mudge here, is in the secret of the Hunger Hole; so nobody is coming with ropes or planks or civilised contrivances of any sort. I have tied my horse to a bush below, just by the dead alder-tree; but I can't well make a suspension-bridge out of reins and saddle-girths, after all.'

'Please ye, my lord,' put in Betty, who had by this time recovered her breath—'please ye, I might run across to Farmer Fletcher's town, and ask him to get chaise ready for the ladies, and send some of his men with things 'cross Swamp.'

This was a very sensible proposition, for Mr Fletcher was the farmer who dwelt on the ridge, and at whose 'town' or farm-house, clustered round by cottages for the labourers who tilled the fields of that little oasis in the desert, the pony and wagonette had been left. The pony and wagonette had long since returned to High Tor in charge of the lad in the Earl's livery, who had sounded the first note of alarm as to the probable

fate of the missing ones; but the farmer possessed a green chaise and a serviceable cob to draw it, and would of course send over all that was needed.

'Better ask him then, from me, to send his chaise to the Crossroads, at the north end of the Heronmere. Bitternley Swamp will not be dry walking after the rain,' said Lord Harrogate.

Betty vanished on her errand like a fog-wreath at sunrise.

'Now let me see what I can do single-handed towards the good work,' said Lord Harrogate. 'It strikes me that the withered tree I spoke of, close to which my nag is tethered, might do good service now. There is something ignominious in being balked by a ditch like that.'

He went, and shortly returned, dragging after him the torn-up trunk of the alder of which he had spoken. Lady Alice clapped her hands. 'I like a man to be strong!' she said applaudingly. Ethel said nothing, but her colour heightened and her eyes grew bright. All women do admire the manly virtues in a man, and strength, like courage and truth and wit, takes rank among them.

The uprooted alder-tree bridged the chasm, with some two feet to spare on each bank, and Lord Harrogate tested it with his foot, and assured himself that it would bear a considerable weight. With his handkerchief he tied one end of it tightly to the iron holdfast belonging to the broken bridge, and crossing with a light and elastic step to the other side, with no trifling difficulty persuaded the two girls to follow his example.

'I am afraid we were sad cowards,' said Ethel, when at last the dreaded passage had been effected, not very promptly or easily, for the narrow tree afforded but a sorry and unsteady foothold, and there was that in the recollection of the ghastly depth below, and the remembrance of the narrowness and slippery roundness of the crackling tree-trunk beneath the feet, that was not unlikely to affect feminine nerves. Yet, propped by Lord Harrogate's arm, and encouraged by Lord Harrogate's voice, with shut eyes and scarcely throbbing hearts, the two girls did manage to get across.

Then came the hasty traversing of the damp outer cave, the emerging into the fresh free air from what had seemed a grave closing its hungry jaws upon the living, and then the long walk through the brooding twilight to the north end of Heronmere, where, thanks to the trusty Betty's winged feet, Farmer Fletcher's green chaise was in readiness to receive the two half-fainting girls, and where at length Lord Harrogate, who had hitherto led *Bay Middleton* by the bridle, as he walked beside the rescued prisoners of the Hunger Hole, was able to spring again into the saddle.

To Betty Mudge, as Lord Harrogate laughingly declared when he had escorted his sister and her governess safely back to High Tor, where the warmest welcome awaited those for whom the neighbourhood was already in full search, the whole credit of the rescue was due. Betty it was who, mushroom-gathering on the moor, had espied the signal of distress, Ethel's handkerchief, fluttering from the slender top of the hazel-tree that rose like a thin flagstaff above the rocks. Betty it was who, divining mischief where duller eyes might have seen nothing but a hazard or a frolicsome prank, had been making her way towards the Hunger Hole, when she caught sight of Lord Harrogate spurring across the moor in aimless

quest of the missing ones. And if there could be faith put in the word of as worthy an Earl and as estimable a Countess as any in the peerage, the wind of adversity should never more be suffered to blow too bitingly, for Betty's sake, on any of the Mudge family.

'I shall ask Morford, as a particular favour, not to repair that bridge,' said Lord Harrogate jestingly. 'No chance then that the Hunger Hole should turn again into a trap for catching young ladies.'

#### CHAPTER XXX.—MAN PROPOSES.

'Harrogate is going, you know, to leave us so very soon,' Lady Maud De Vere had said, in her kindly matter-of-fact way, in the course of conversation with Ethel Gray; and Ethel had turned away her face instinctively, lest the burning blush which rose there unbidden should betray her secret to her pupil's sister and her own friend. Poor Ethel had communed with her heart in the still hours of more than one night since the evening that had witnessed her release from the Hunger Hole, and she could not but acknowledge to herself that she loved Lord Harrogate.

It was not a welcome conviction that forced itself gradually upon Ethel Gray. The attachment, hopeless as it perforce was, was a thing to be deplored, a misfortune; not a source of joy. Lord Harrogate could be nothing to her. He was almost as remote from her humble sphere of life as a Prince of the blood-royal would have been. There are girls who know, where their own personal vanity is at stake, no distinction of ranks, and would set their caps without compunction at an Emperor. Ethel was none of these. To fall in love, even with an object as hopelessly out of reach as one of the fixed stars would be, is a forlorn privilege which has been claimed in every age by very humble persons of either sex. But to Ethel's proud, maidenly heart it was pain, not pleasure, to know that the future Earl, the future master of High Tor, had grown to be dearer to her than was well for her peace of mind. That she was in his eyes merely Miss Gray, his sister's governess, was to her thinking a certainty. And she did not even wish that it were otherwise. Why should there be two persons unhappy, on such a subject, instead of one? It was much better as it was. She had begun to love him before, in that desolate cavern on the moor, he had appeared as the harbinger of safety. But she had not admitted to herself that this was so, until the whirl of strong feelings consequent on the danger and the deliverance had taught her to read her own heart, and to learn that his image was garnered in its innermost core. And now he was going away, going very soon. Well, it was better so. A young man such as he was could not always be expected to linger in a country-house. He was going, and she should see him no more. Doubtless it was for the best.

She was in the garden, and alone. A governess is seldom alone. But lessons were over for the day; and Lady Alice her pupil was up-stairs finishing a sketch, and Ethel had strayed out into what, from some household tradition of a foreign florist who had been invoked, when Anne was Queen, to shape and stock the flower-beds and to trim the luxuriant holly-hedge into Netherlandish

neatness, was called the Dutch garden. A pleasant spot it was, with its wealth of fragrant old-fashioned roses and gorgeous display of variegated tulips, screened by the immemorial holly-hedge from the rude north-east wind.

Quite suddenly, as she reached the other end of the holly-hedge, Ethel looked up at the rustle of the crisp green leaves, against which some one or something had brushed in passing, and her eyes met those of Lord Harrogate. The latter lifted his hat, but did not immediately speak, while Ethel neither spoke nor stirred. When the thoughts have been busy in conjuring up the image of a particular person, and the original of the air-drawn portrait appears, a kind of dreamy appreciativeness, which is of all sensations the most unlike to surprise, is apt to result. It was so in this case; and for a few brief instants Ethel looked at Lord Harrogate as she would have looked at his picture on the wall.

'I thought I might find you here,' said Lord Harrogate, dissolving the spell by the sound of his voice. 'I hoped I should,' he added, in a lower and more meaning tone. Ethel murmured something, stooping as she did so to lift the drooping tendril of a standard rose-tree beaten down by the heavy rain of yesterday. 'Can you guess at all, Miss Gray,' continued the young man, with an evident effort to speak carelessly and confidently, 'why I wanted to find you here—and alone?'

It was not quite a fair question. Ethel, in her simple honesty, not caring to enter on a course of that verbal fencing which comes so naturally to a woman whose heart has not yet learned to speak, made no reply. Her colour deepened, and she became very intent indeed upon the bruised trail of the rose-tree.

'I am going away, as you know, and that very soon. My plans for the winter are quite undecided. I may not be back at High Tor for a good while,' said the heir to that mansion.

Now there were to be certain autumn manoeuvres in the open country near Aldershot Camp, in which that regiment of militia in which Lord Harrogate was a captain, and towards the perfection of whose drill and discipline he was thought to have contributed more than most militia officers find it convenient to do, had been selected to figure among the auxiliary forces on that occasion.

'Some friends want me,' explained Lord Harrogate, 'when our amateur soldiering is over, to go with them on a yacht-cruise in the Mediterranean, and so on to Egypt, and perhaps farther. What I choose will very much depend on you, Miss Gray.'

'On me!' She could not avoid answering this time, and her tone was one of genuine surprise. 'On me, Lord Harrogate!'

'On you. I should like all my plans to have some reference to you—Ethel!' said the young man, trying to get a full view of the beautiful blushing face that was half averted. 'I say again, can you guess why?'

'Do not ask me to guess,' returned Ethel, with a trembling lip. She was very much frightened. She had not the least experience in that science of flirtation in which the modern young lady graduates so early. But she divined that words had been said which rendered it necessary that other words should be spoken, and with what result! Could it be that the end of the interview would be the dashing down of the half-

idolised image that her fancy had set up as the emblem of pure chivalry?

'Only because I love you—love you very dearly, Ethel!' said the heir of High Tor; and as he spoke he took her unresisting hand in his and drew her towards him. For a moment Ethel was spellbound, her whole faculties absorbed in the one fact that he had told her that he loved her. Come what might, those words—those dear delicious words had sunk into her ear, and the memory of them must remain to the end of what would very likely be a lonely, loveless life; a treasure, her very own, of which none could rob her! But in the next minute Ethel drew her hand away from the hand that held it, and the crimson of indignant anger mounted to her cheek.

'My lord,' she said, in a voice that all her wish to speak and act calmly could not render quite steady, 'you should not have done this. I could not have believed it of you. It is not generous. It is not like yourself.'

'Why not?' Lord Harrogate blundered out the words awkwardly enough; but Ethel misunderstood him.

'Because,' she said firmly, 'my position beneath your mother's roof, in its very lowliness, ought to have been my protection from insult, which?'

'Insult!' flashed out Lord Harrogate, reddening too, and breaking almost roughly in on the girl's half-uttered speech. 'Can you deem that I mean to insult you when I tell you of my love—that I speak insolently, Miss Gray, when I ask you to be my wife?'

Ethel quivered from head to foot as her half-incredulous ears drank in the words. 'You meant—that is'—she faltered out feebly.

'I meant this,' said Lord Harrogate earnestly. 'Miss Gray—Ethel, darling, I have learned during the time that I have known you, to love you with a true and honest love. I am a clumsy wooer, I daresay, but surely you cannot have deemed that I had any other thought than that of asking you, for weal and woe, to share my fortunes?'

He tried to take her hand; but she eluded his grasp, and covering her face, sobbed aloud.

'Come, Ethel, come, my love! Let it be mine to dry those tears!' said the young man, passing his arm round her waist; but gently and firmly she released herself.

'You have made me very happy and very miserable all at once, my lord,' she said, turning round and facing him; 'but believe me, there must be no more of this. I thank you from my heart for the very great compliment of your preference for a girl so humbly born, without fortune or kindred. But I am your sister's governess; and it shall never be said that Ethel Gray brought disunion and sorrow upon the noble family that had received her with so kindly a welcome. I have my own ideas of right and wrong, Lord Harrogate, and I know that I should be mean and base, even in my own eyes, were I to avail myself of—your great goodness.'

He was taken by surprise. He had made up his mind, and reckoned the difficulties of the step which he proposed to take. That he would meet with some opposition on the part of his family, he was of course aware. It might take much time and much persuasion to bring his parents, and especially the Countess, to consent to a match so



little calculated to advance his worldly prospects. But he was no shallow boy to cry for his toy, and then forget the bauble that had been withheld from him. His offer of marriage would no doubt render Ethel's position at High Tor for a time untenable. He had thought the matter over. There were relatives of the De Veres who, without being partisans of the match, would willingly offer a temporary home to such a girl as Ethel Gray, while his mother and Lady Gladys were in process of being converted to see the matter as he saw it.

Ethel's unlooked-for opposition disconcerted all these projects. She was very grateful, gentle, and almost submissive in her bearing; but she was as steadfast as adamant on the point that it behoved her to return a respectful refusal to Lord Harrogate's proposals.

'Do not tempt me,' she said more than once; 'do not urge me to forfeit my self-respect, or be false to those who have put trust in me. I am no fit match for the future master of High Tor, the future Earl of Wolverhampton. Would the kind Countess have received me here, would Lady Maud have given me her friendship, had they dreamed of this?'

She was very firm. She let him infer, if he chose, that he was not indifferent to her; but to none of his instances would she yield her steady conviction that duty forbade her to say 'Yes' to his entreaties. He became—small blame to him for being so—almost angry, and tried if reproach would succeed where prayer and argument had failed. In vain. His reproaches brought the tears to Ethel's eyes, but she never faltered in her resolve.

If he pressed her unduly on this point, she said simply that she must go away. Let him forget her, or learn, as she hoped he would, to regard her as a friend, and then she need not leave High Tor. And then—

And then Lady Alice, Ethel's pupil, made her appearance, and there was no more opportunity for private conversation; and two days later, Lord Harrogate started for Aldershot.

(To be continued.)

### STRANGE SEA ANIMALS.

By the term sea-squirts, the naturalist denominates some of the most remarkable animals which it is his province to study. In more polite phraseology the sea-squirts are termed 'Ascidians,' this appellation being derived from the Greek *askos*, meaning a wine-skin or Eastern leather-bottle, to which, in outward shape and form the sea-squirts bear a very close resemblance. And as a final designation, the animals under discussion may be known as 'Tunicates,' since their bodies are inclosed within a tough bag or 'tunic,' the chemical composition of which forms, as we shall presently shew, one of the notable points of their structure. The sea-squirts present themselves to the zoologist as a group of beings exhibiting many exceptions to the ordinary rules of animal organisation; and it may also be noted that they have attained a degree of scientific fame almost exceeding that which their most ardent admirers could have expected. The young sea-squirt has thus

been credited in certain scientific speculations with presenting the naturalist and mankind at large with a *fac-simile* of the early progenitor and far-back ancestor of the whole vertebrate group of animals, including man himself—in other words, it is maintained that the young sea-squirt, through some peculiar process of modification and elevation, has given origin to the highest group of living beings. With the promise before us of obtaining information regarding a most interesting group of animals, which are thus held by some *savants* to possess relations of no ordinary kind to man himself, the reader will require little incentive to follow out the steps of a brief inquiry into their life-history and relations.

The fame of the sea-squirts is by no means of modern date. Aristotle gives us a succinct description of them in his *History of Animals* under the designation 'Tethea;' and by the same name Pliny has made the sea-squirts of classic reputation, since we learn from this latter author that they were included as articles of importance in the pharmacopœia of the Romans. In their commonest phases, the sea-squirts appear as little leathery bags of clear aspect, through the somewhat transparent wall of which the internal organs can be discerned. The resemblance of the animals to the ancient wine-skin has already been remarked. The wine-skin, as every one knows, was made of the stomach of some animal, or of the skin so arranged as to present two orifices or necks. Thus when we look at a common sea-squirt we see a veritable little 'leather-bottle,' measuring from half an inch to an inch or more in length, attached by one extremity to the rock at low-water mark, or to the shell we have dredged, and bearing on its upper surface two prominent openings, each supported on a short neck. The origin of the common name of 'sea-squirt' is by no means hard to trace. The incautious observer who picks up a sea-squirt which has through unpropitious fate been cast up on the sea-beach after a storm, after a short survey of the sac-like body, may possibly be tempted to squeeze it as a preliminary to further investigation. On being thus irritated, the animal will most likely retaliate by forcibly ejecting jets of water from the two orifices of the 'bottle;' this procedure possibly resulting in the relinquishment of the sea-squirt as altogether an unlikely and unfavourable object for further study. But the observation of this unpolite habit on the part of the animal, will be found to assist our further comprehension of its physiology, and of the manner in which the functions of its life are carried on.

A highly curious item of sea-squirt history is furnished at the outset by the consideration of the rough bag or 'test' in which its organs are inclosed. When the chemist analyses this part of the animal, he finds it to be composed in greater part of a substance known as *cellulose*. It so happens that cellulose is a most important constituent of plants, being almost as common in vegetables as starch. Hence zoologists accounted it a

strange and unwonted proceeding on the part of an animal, that it should manufacture in a seemingly natural manner a substance proper and peculiar to the plant-world. The multiplication of cases of like kind in animals has destroyed the novelty and unique nature of the sea-squirt's case; but none the less curious must the fact be accounted, that the animal should mimic the plant in the mode and results of its life. When the tough outer sac is cut open, we come upon a much more delicate and softer structure, known as the *mantle*. This latter forms an inner lining to the test, and is the structure upon the presence of which the sea-squirt's power of ejecting water depends. The mantle is a highly muscular layer, and lies next the organs and internal belongings of the animal.

The clearest mode of describing the structure of the sea-squirt is that of beginning with that neck of the bottle-shaped body on which the mouth opens. The mouth leads, curiously enough, not into a throat, but into a large chamber, named the breathing-sac. The walls of this chamber may be simply described as composed of a network of fine blood-vessels; the meshes of this network being provided with those delicate vibratile filaments, named cilia, the function of which is to keep up, by their movements, a constant circulation of the water admitted to the breathing-chamber. Just within the mouth-opening a few small tentacles or feelers exist, these organs serving to guard the entrance to the body. On the floor of the breathing-sac an opening may be perceived; this aperture leading into the throat, and being, therefore, by many naturalists termed the true mouth. And in the way of digestive apparatus, we find the sea-squirt to possess a stomach, intestine, and other organs.

It is highly interesting to note the manner in which the sea-squirt obtains its food. The nutritive wherewithal consists of sedimentary matters, such as minute animals and plants, these substances being drawn into the breathing-sac along with the currents of water which are continually being taken into the body. The nutritive sediment is collected together by certain folds of the lining membrane of the breathing-chamber, and is thus transferred to the mouth-opening below. The breathing-chambers of the sea-squirts, it may be noted in passing, frequently afford lodgment to tiny dwellers in the shape of little pea-crabs. The writer has noticed these little lodgers to issue forth at night from the mouth of the sea-squirts, when the latter have been kept in an aquarium, in order to pick up particles of food on the floor of their abode. The crabs retreated to their shelter on the slightest alarm; and this case of companionship presents one of those curious instances of animal association which at present we are wholly unable to explain.

The food being converted into blood in the digestive system, we may next inquire as to the

means which the sea-squirt possesses for circulating the blood through the body. In higher animals, the heart and blood-vessels perform this important task; and in the sea-squirt we find these structures to be represented; the sea-squirt's heart indeed, in respect of its peculiarity of action, being without a parallel in the whole animal world. The heart consists of a simple tube, from each end of which blood-vessels pass, some being distributed to the breathing-chamber, and others to the body generally. In the highest animals the heart has the double function of driving pure blood through the body, and of circulating impure blood through the breathing organs for purification. It is noteworthy to observe, that by a curious and, as already remarked, altogether unparalleled contrivance, Nature has succeeded in causing the simple tube-heart of the sea-squirt to perform the work done by the complex organ of higher animals. When we observe the movements of the sea-squirt's heart, we may see it to propel the blood by its pulsations at first to the breathing-chamber for purification. Then a pause succeeds, and the heart is observed to pulsate in the reverse direction, and to drive the blood from the breathing-chamber through the body. Probably no better illustration of the manner in which, by a modification of function, Nature compensates for simplicity of structure, could be had, than that afforded by the sea-squirt's heart.

The breathing-chamber, as we have seen, receives fresh sea-water from the outside world, this water containing the vivifying oxygen required for the purification and renewal of the blood. Having given up its oxygen to the blood contained in the fine blood-vessels of the breathing-chamber, and its sediment to serve for food, the great bulk of water contained in the breathing-sac has now to be got rid of, to make room for a fresh supply. This process is effected in the most admirable manner through the currents created by the little filaments or cilia, which cause a constant flow of water to pass through the network walls of the breathing-chamber into a second sac or bag which lies parallel with it. This latter sac receives the name of the *atrium*, and communicates with the outer world by the second neck or orifice of the body. Hence the water which enters by the mouth-opening, after passing through the breathing-chamber, is ejected by the second aperture of the body, and affords the material wherewith the sea-squirt vents its indignation on prying humanity in the shape of the *jets d'eau* which have procured for it its popular designation. The sea-squirt regarded in relation to its sedentary habits, would seem to require no great exercise of nervous powers. Accordingly we find its nervous system to be represented by a single mass of nervous matter, placed near the mouth, and from which nerves pass to the other parts of the body. The acts of a sea-squirt may thus be regarded as purely of the character we are accustomed to name 'automatic.' It is provided with instincts enabling it to carry on the acts of its life and to exhibit a certain degree of irritability, without at the same time knowing the 'reason why' of its own actions.

The sea-squirts present no exceptions to the universal rule of Harvey, *omne animal ex ovo*—this philosopher believing in the universal development of the animal-form from an ovum or egg. But unlike most higher animals, the young sea-squirt



does not come from the egg in the likeness of the parent. It first appears as a tadpole-like body, this creature—the larva as it is named—being produced in some thirty hours after the development of the egg begins. The head of the tadpole is provided with pigment spots or rudimentary eyes, and with three little suckers, by means of which it ultimately attaches itself to fixed bodies, prior to assuming the form of the adult and perfect Ascidian. The tail of the tadpole-larva next becomes retracted within its body, and therein disappears, whilst after fixing itself, the well-known features of the sea-squirt become duly developed. A Russian zoologist has remarked that in the tail of the sea-squirt a long rod-like body is to be seen. Now in the lowest fishes, the spine exists in a similar and rod-like condition; and hence, by a certain school of naturalists, it is urged that the vertebrates may have originated in the past from some form resembling the sea-squirt larva, in whose tail we are therefore invited to behold the first stage of the vertebrate backbone or spine. It is noteworthy to observe, however, that the opinions of these naturalists are by no means accepted by the scientific world at large; and one eminent German observer declared that the rod-like body in the sea-squirt larva's tail was not situated in the back, but in the opposite region of the body, and that therefore it could not be regarded as corresponding to the 'back'-bone of higher animals.

Certain near relations of the sea-squirt become of exceeding interest from their departure from the more usual and staid type of Ascidian structure. Amongst these errant members of the sea-squirt tribe the most remarkable perhaps are the *Salpæ*—clear, gelatinous animals, met with swimming in long connected chains on the surface of the sea in tropical regions. The celebrated novelist Chamisso, author of the charming story, *Peter Schlemil or the Shadowless Man*, who to his literary tastes united a striking aptitude for natural history research, discovered that the young of these chain-salpæ invariably appears as a *single* form; whilst each single salpa has the power of producing a connected chain. Thus the salpa sea-squirts exist in two distinct forms—chain-salpæ and single salpæ, and to use Chamisso's own words: 'A salpa mother is not like its daughter or its own mother, but resembles its grand-daughter and its grand-mother.'

Another curious group of the sea-squirts is that known by the name of the *Pyrosomæ*, a name literally meaning 'fiery-bodies.' These latter forms exist as connected masses of sea-squirts aggregated together, so as to form a hollow cylinder or tube, closed at one end; this animal-colony swimming on the surface of the sea, by the admission and forcible ejection of water from the interior of the tube. Such a means of locomotion reminds us of a veritable hydraulic engine, and is decidedly a useful modification of the common sea-squirt's habit. The pyrosomæ exhibit a strange phosphorescent light, seen also in such animals as the jelly-fishes. These luminous sea-squirts when seen in shoals, have well been described as 'miniature pillars of fire, gleaming out of the dark sea, with an ever-waning, ever-brightening, soft, bluish light, as far as the eye could reach on every side.' Side by side with this description from the pen of a distinguished naturalist, may be placed the poetic

realisation of a similar scene by Sir Walter Scott, who in the *Lord of the Isles* has happily noted the luminosity of the sea when,

Awaked before the rushing prow  
The mimic fires of ocean glow,  
Those lightnings of the wave;  
Wild sparkles crest the broken tides,  
And flashing round the vessel's sides,  
With elfish lustre lave;  
While far behind, their livid light  
To the dark billows of the night  
A gloomy splendour gave.

## THE POINT OF HONOUR.

### A STORY OF THE PAST.

SHORTLY after Waterloo had been fought, one of our English regiments (which had taken a distinguished part in that great victory) stationed in a Mediterranean garrison, gained an undeniable notoriety there by a sudden mania for duelling that broke out amongst its officers, and which threatened to become so chronic in its character as seriously to interfere with the discipline of the corps. Quarrels were literally 'made to order' at mess-time for the most trifling affairs, and scarcely a day passed without a hostile meeting taking place, which the colonel—a weak-minded man—expressed himself powerless to prevent. Indeed he had already been sent to 'Coventry' by his subordinates, which, as our readers doubtless know, is a kind of social excommunication that, when acted upon in an English regiment, generally ends in the retirement from the corps of the individual on whom it falls. It was so in this instance, for the colonel saw that the vendetta-like conduct of his officers towards him was gradually divesting him of all authority in the eyes of his men; and as he had none but his social inferiors to whom he could turn for counsel and advice, he was compelled to relinquish his command and return to England. On arrival in this country he lost no time in proceeding to the Horse Guards, where he sought and gained an interview with the Duke of Wellington, to whom he gave a graphic account of the state of affairs which existed in the regiment he had just left.

The Iron Duke listened attentively to the narration, and knitted his brow in anger as the colonel related the story of the duelling; and when the latter had finished speaking, he exclaimed in an unmistakably stern and uncompromising tone: 'It is *your* fault, sir! You should have brought some of the ringleaders to a court-martial, and cashiered them on the spot. You have sadly neglected your duty, and that is a thing which I never pardon.'

The colonel left the Horse Guards in a very crest-fallen state, and he was hardly surprised when he saw in the next *Gazette* the announcement that 'His Majesty had no further need of his services.'

In the meantime the Duke had obtained a special audience of the Prince Regent, to whom he explained the condition of affairs in connection with the regiment in question. The result of the interview was that Colonel A—, a well-known martinet, then on half-pay, was sent for, and the

circumstances explained to him; the Prince offering him the command of the regiment on condition that he would undertake to care the duelling propensities of its officers. Colonel A—— was delighted at the prospect of active service, and he willingly accepted the task assigned to him, it being understood that he was to be granted a royal indemnity for anything serious which might happen to anybody else in his endeavours to put a stop to the duelling. He was a man of high reputation, and had previously held other difficult commands, being known throughout the army as a good soldier but a stern disciplinarian.

Such was the old soldier's feelings at the special honour conferred on him that on leaving St James's Palace he actually forgot to return the salute of the sentinels posted at the gates, to the great astonishment of the latter, who knew his punctilious habits.

On his arrival at the garrison he lost no time in making himself acquainted with his brother-officers. He had already laid out his plan of action in his own mind, and was fully determined to allow nothing to swerve him a hair's-breadth from the path of duty. At the mess-table he behaved with studied politeness and amiability of manner; and his subordinates indicated that they were greatly pleased with their new commander. He chatted pleasantly with all, from the senior major down to the youngest ensign, and when the cloth was removed, regaled them with the latest gossip and doings of London society. Before they separated for the night, however, he took the opportunity of informing them in a very quiet manner, that he had heard of the frequent duels which had lately taken place in the corps, and that it seemed a matter of regret to him that they could not manage to live in peace and amity. 'However,' he said, 'if it be your wish, gentlemen, to fight out your quarrels in this way, I shall interpose no obstacle to your doing so. But this can only be by your pledging your word of honour *now*, to the effect that in future no duel shall take place without my permission having been first obtained. As I am your colonel, it is necessary that my authority should be acknowledged in all that relates to the honour of the regiment.'

The officers looked at each other and then at the colonel, and a somewhat embarrassing silence ensued; but it was broken by Colonel A——, who said: 'Don't be afraid that I shall refuse your request; on the contrary, I shall only be too pleased to grant my permission if, on examining the facts of the case, I find sufficient reason to think that the applicant's *amour propre* has been wounded, and that a hostile meeting is indispensable.'

At these reassuring words the young fire-eaters were satisfied, and at once gave the promise demanded; and Colonel A—— then retired to his chamber, where, overcome with the fatigue of a rough voyage, he soon found himself snugly ensconced in the arms of Morpheus.

On the following morning he was rather rudely awakened from a refreshing slumber by a loud rapping at his chamber-door; and on challenging his early visitors, he was informed that it was Captain Lord Vellum and Ensign Warbottle who wished to speak to him on a matter of the gravest importance.

'You might have chosen a more convenient hour for your visit, gentlemen,' said the colonel, who was naturally loath to rise from his bed at five o'clock on the first morning after his voyage.

'It is an "affair of honour," colonel,' was the significant reply, 'and cannot be delayed. We beg you will admit us instantly.'

The colonel rose and opened the door to the early comers. They were two handsome young men, who had on the previous evening already attracted Colonel A——'s attention by the extreme friendliness which they exhibited for each other. They respectfully saluted their commanding officer as they entered the room, and the latter broke an awkward silence by demanding of them the object of their visit.

Ensign Warbottle again raised his hand in salute as he replied: 'We have come to ask your permission to fight, colonel.'

'Indeed!' exclaimed Colonel A——. 'I thought you were great friends.'

'Yes, colonel, we have been most intimate friends from our youth upward,' said Lord Vellum, 'and we respect each other very sincerely; but we have had a dispute, and our wounded honour must be satisfied.'

'Then I presume that something very serious must have occurred, gentlemen, to make the only remedy for it a recourse to the pistol?'

'It is indeed a very serious matter, colonel,' replied Ensign Warbottle; 'and it is this. After you had left the table last night, we chatted over what you told us about the doings in London lately; and in the enthusiasm of the moment, I remarked that I should like to be there, riding at the head of a troop of Life Guards, and escorting the Prince Regent, with my silver helmet glittering in the sun and my drawn sword in my hand. Whereupon Lord Vellum said with a sneer that I was a feather-bed soldier, and that a leathern helmet would be quite good enough for such as I. I took no notice of this remark; but I was annoyed and excited; and when he further asserted that the officers of the Life Guards wore brass helmets, human nature could stand it no longer, and I gave him the lie. He retaliated by striking me on the face; an insult, Colonel A——, which justifies me, I think, in demanding a hostile meeting.' The last words were said in a manner which admitted of only one meaning, and the two young officers exchanged glances of mutual hatred and defiance.

'It is indeed grave, gentlemen,' sententiously remarked the colonel: 'the helmets worn by the officers of His Majesty's Life Guards are neither silver nor brass, but white metal lacquered with silver-gilt; but this information will not, I presume, alter the position of affairs. Do you still wish to fight the question out?'

'Certainly, sir!' exclaimed the two officers.

'Very well,' replied the colonel gravely, 'far be it from me to interpose any obstacle to your meeting, gentlemen; but this duel must be a serious one, as befits so important a question as the Life Guards' helmets, and not an affair resulting in a mere scratch, as I am given to understand is generally the case in these mess quarrels. Remember that you are British officers and not Spanish bravoes, and that the honour of a British officer can only be vindicated by the death of his

opponent. Go, gentlemen, and fight your duel; and I will meet the survivor on his return.'

The two young men saluted the colonel and retired. A few minutes afterwards, they and their seconds were seen hurrying off to the place of meeting—a spot which is known in the garrison to this day as 'Duel Avenue.'

Three hours later, Colonel A— went down into the parade-ground to inspect the regiment, and he was surprised to see both Lord Vellum and Ensign Warbottle amongst the officers who approached him to give their morning salute. The latter had his arm in a sling; and to the stern inquiry of Colonel A— as to whether the duel had yet taken place, he replied, with a forced smile lighting up his face: 'Yes, colonel; his lordship has given me a nasty scratch in the arm.'

'A scratch in the arm!' exclaimed the colonel contemptuously. 'And do you call that fighting, gentlemen—do you call that fighting? And for so important a question as the helmets of His Majesty's Life Guards! Bah! it is nothing! This matter must be fought over again, under pain of instant dismissal from the service if my order be disobeyed!'

'But'— began Lord Vellum, attempting to express his satisfaction at the reparation his wounded honour had received.

'But me no buts, gentlemen!' exclaimed the colonel angrily. 'I have the Prince's instructions on this point, and it is for you to vindicate your own honour in a proper manner, or retire disgraced from His Majesty's service.'

This alternative was one not to be thought of; and it need scarcely be said that the young fire-eaters chose rather to fight again than be cashiered. The duel was fought again, and this time Lord Vellum was shot through the body—a wound which laid him on a sick-bed for two months.

During this long period many quarrels had taken place at the mess-table, some of which had been settled by the colonel acting as 'arbitrator;' and others stood over for his permission to fight—a permission which he refused to grant until the result of Lord Vellum's illness should become known. In the meantime Colonel A— had communicated with the Duke of Wellington, from whom he received explicit instructions to carry the matter out to the bitter end, as the only means of putting a stop to a matter which was fast becoming a world-wide scandal.

Lord Vellum was carefully attended to during his illness by his 'friend and enemy' Ensign Warbottle, to whose efforts he not only owed his life, but was enabled at the end of the two months to take a short walk every morning. His recovery then proceeded rapidly, and he soon became enabled to walk without any support whatever.

The two friends were walking together one morning, when they suddenly found themselves face to face with Colonel A—.

'Ah, gentlemen, good-morning!' exclaimed the latter. 'I am delighted to see his lordship out again, especially as it will now enable you to finish your *affaire d'honneur* in a more satisfactory manner.'

The young officers, scarcely believing their own ears, were for a time struck dumb with astonishment, and they gazed at each other and at the colonel with looks of bewilderment and despair.

'You see, gentlemen,' said the colonel gravely, 'that this question of the Life Guards' helmets is of such importance that I deemed it advisable, since his lordship's illness, to write to the Duke of Wellington on the subject; and I have here His Grace's orders that the duel should be renewed again and again until the life of one of the combatants has been forfeited.' As he spoke, Colonel A— drew from the breast-pocket of his coat a large letter, bearing on its envelope the words 'On His Majesty's Service' in large black letters, and in one corner the notice in red ink, 'Very Urgent.'

'But,' said the young ensign, 'his lordship has not recovered yet; besides'—

'When one can walk,' interrupted the colonel, 'one can also fire off a pistol; and it is not conducive to the interests and dignity of the service that so important a question as the equipment of His Majesty's body-guard should any longer be left undecided.'

The two young officers, who had cemented their friendship anew during the period of illness, here took each other's hands and gazed long and silently into each other's face. Colonel A— turned away to hide his emotion; for being really possessed of a kindly disposition, he began to regret the stern and unbending part he had been called upon to perform. Brushing the signs of his weakness away from his eyes, he turned once more towards the young officers and said: 'Gentlemen, I have orders from England to supersede you in the regiment to which we all have the honour to belong; and I am only to waive the execution of these orders on condition that the duel is renewed, as already stated. Your honour is absolutely in your own hands, and you must choose your own course. I leave you to decide, gentlemen, what that course shall be, and bid you for the present adieu.' So saying, the colonel left the two friends to decide upon their own fate. They ultimately decided to consult with their brother-officers on the subject, and to be guided by the general opinion. This opinion turned out to be in favour of another fight; and they once more proceeded to the place of meeting, each mentally resolving not to injure the other, but each exchanging portraits and letters for their friends. The fatal weapons were discharged, and Ensign Warbottle fell to the earth with a shot buried in his heart.

The grief of Lord Vellum knew no bounds, for he had been led to believe that the balls had been withdrawn from the pistols. He threw himself on the inanimate body of his friend, and could with great difficulty be removed therefrom. At length he was conducted to the house of a married officer; and from there he indited a letter to Colonel A—, tendering his resignation, and reproaching the latter with the death of his friend.

The same afternoon, Colonel A— assembled the other officers, and addressing himself especially to those whose applications to fight were in suspension, declared himself ready to grant one more permission on the same conditions as the other, namely that 'for honour's sake' the combatants should fight to the death. In the pause which ensued, one officer after another saluted the colonel respectfully, and then retired as silently as they came, leaving him alone in the mess-room and master of the situation.



It was a rude lesson which these officers had received, but it fully accomplished its purpose, and from that day to this duelling has been almost unknown in the British army.

### 'SUPERS' ON THE STAGE.

**SUPERNUMERARIES** on the stage, ordinarily called 'supers,' receive a small pay, but are not reckoned within the rôle of actors. They make up a crowd, when a crowd is wanted in the piece, and so on. Though viewed as a kind of nobodies, they cannot be done without, and managers need to take care not to give them offence.

These humble players have been aptly described as serfs of the stage, for whom there is no manumission. Let them work as hard as they will, play their parts as well as they may, their merits meet scant recognition either before or behind the curtain. For the wage of some threepence an hour, they have to submit to being bullied and badgered, and put to all manner of personal discomfort. Still, with a sense of inferiority, the super considers himself an actor. He treads but the lowest rung; but his foot is on the theatrical ladder. The climbers above may superciliously ignore the connection; but he feels that he too is an actor, and sometimes asserts his fellowship; like the poverty-stricken fellow who publicly hailed David Garrick as his 'dear colleague,' on the score that it was his crowing that made the ghost of buried Denmark start like a guilty thing upon a fearful summons; and the less obtrusive super who, when told of Macready's death, exclaimed: 'Ah! another of us gone!'

It is recorded that a French super playing an assistant-footman in a popular *opéra-bouffe* for the first time, fell down in a fit, brought on by the excitement consequent upon his having to 'create the rôle.' Too much zeal is always inconvenient. At a performance not very long since of *Richard III.*, the armies contending at Bosworth were so carried away by professional ardour that the mimic fray came very near the real thing; and one gallant archer introduced himself to the manager's notice with an arrow through his nose, so astonishing that gentleman that he salved the wound with half a sovereign. The next evening the casualties rose to such alarming proportions, that a like treatment would have well-nigh exhausted the treasury.

Such realistic combats would have delighted Forrest the American tragedian, famous for his 'powerful' acting. Rehearsing the part of a brave Roman warrior at the Albany Theatre, Forrest stormed at the representatives of the minions of a tyrant for not attacking him with sufficient spirit. At last the captain of the supers inquired if he wanted to make 'a bully-fight of it,' and received an affirmative answer. Evening came, and in due course the fighting scene was reached. Forrest 'took the stage,' and the half-dozen myrmidons advanced against him in skirmishing order. 'Seize him!' cried the tyrant. Striking a pugilistic atti-

tude, the first minion hit out from the shoulder, and gave the Roman hero a fair 'facer'; the second minion following up with a well-judged kick from behind; while the others rushed in for a bout at close-quarters. The eyes of the astounded actor flashed fire; there was a short scrimmage of seven, and then one super went head first into the big drum and stopped there, four retired behind the scenes to have their wounds dressed, and the last of the valiant crew finding himself somehow up in the flies, rushed out upon the roof of the theatre bawling 'Fire!' with all the energy left him; while the breathless tragedian was bowing his acknowledgments of the enthusiastic plaudits of the excited audience.

Considering how often the super changes his nationality, one would expect him to be too thorough a cosmopolitan to cherish any insular or continental prejudices. They nevertheless have their sympathies and antipathies. 'Shure, sir,' said an Irishman who had for some nights died a glorious death fighting for Fatherland, 'it's mighty onpleasant to have to be a German; I'd rather play a Frenchman.' He had to be contented by receiving the manager's assurance that if he continued to work up his agony well, he might be permitted to change his uniform at the end of the month. Greater success awaited a stalwart navy, who after crossing the Danube several times at Alexandra Park, declared he must 'chuck it up' if he could not be a Turk. His desire was granted; and the next afternoon he was pitching Russians into the water with a will.

In the old days of the Paris Cirque, a rule is said to have obtained, compelling supers who had incurred the management's displeasure to go on as 'the enemy,' destined to succumb to native valour, by which means the difficulty of getting men to appear as the foes of France was obviated. When the *Battle of Waterloo* was first produced on the English stage, in one of the battle-scenes the French troops drove a British division across the mimic field. This was done for a few nights. One morning, after rehearsal, the leader of the supernumerary red-coat corps, gathering his followers around him, said: 'Boys, we mustn't retreat before the Johnny Crapauds again, to be goosed by the pit. It's all very well at rehearsal, but when it comes to real acting it won't do. Let us turn upon the yelling demons and pitch them into the pit!' And they did it too, astonishing the 'Frenchmen,' to say nothing of the audience; as greatly as Mr George Jones was once astonished by certain theatrical pirates. He, as an American sailor, had to rescue a fair captive from the clutches of the afore-said ruffians. Unfortunately he had contrived to mortally offend the four supers concerned; and when he rushed to the lady's aid with: 'Come on, ye villains! One Yankee tar is more than a match for four lubberly sharks!' instead of leading off in a broadsword fight, the pirate captain shouted: 'I guess not!' and seizing Jones by the legs and arms, the pirates carried him off the stage, deposited him in the property closet, and then returning,

bore off the damsel to their rocky retreat; leaving the curtain to come down before a very much puzzled audience, to whom no explanation was vouchsafed.

Somebody—we think Mr Dutton Cook—tells a good story of an *accessoire* once attached to the Porte St-Martin Theatre. M. Fombonne had won managerial praise for the adroitness with which he handed letters or coffee-cups upon a salver and his excellent manner of announcing the names of stage-guests and visitors. Naturally enough, he thought his services might be more liberally rewarded, and made his thought known.

'Monsieur Fombonne,' said the manager, 'I acknowledge the justice of your application. I admire and esteem you. You are one of the most useful members of my company. I well know your worth; no one better.'

Glowing with pleasure at this recognition of his merits, M. Fombonne, with one of his best bows, said: 'I may venture then to hope'—

'By all means, Monsieur Fombonne,' interrupted the manager. 'Hope sustains us under all our afflictions. Always hope. For my part, hope is the only thing left me. Business is wretched. The treasury is empty. I cannot possibly raise your salary. But you are an artist, and therefore above pecuniary considerations. I do not, I cannot offer you money; but I can gratify a laudable ambition. Hitherto you have ranked only as an *accessoire*; from this time you are an actor. I give you the right of entering the *grand foyer*. You are permitted to call Monsieur Lemaître *mon camarade*; to tutoyer Mademoiselle Theodorine. I am sure, Monsieur Fombonne, that you will thoroughly appreciate the distinction I have conferred upon you.' The manager read his man rightly; the promoted *accessoire* was more than satisfied.

Not so well pleased was the English super who asked for a rise, pleading that he had been playing his part with the utmost care and zeal for a hundred consecutive nights. The manager inquired what part he played.

'Why, sir,' said he, 'I am in the fourth act; I have to stake twenty pounds in the gambling scene.'

'Very well,' quoth the manager; 'from to-night you shall double the stakes.'

Was it the same manager, we wonder, to whom Mr Sala's small super came crying for a redress of his grievance? He had been cast to play 'double-four' in a pantomimic game of animated dominoes; but the dresser had allotted 'double-four' to his brother Jim, and insisted upon his being contented with donning the tabard of 'four and a blank.' He had protested, he had howled, he had punched Jim's head, without effect.

'What am I to do?' the little pantomimist cried. 'I'd sooner give up the profession, than be took down so many pegs without never 'avin done nuffin.'

'Never mind, my boy,' replied the amused stage-manager; 'you shall play double-four; and if you behave yourself properly till Boxing Night you shall play double-six.'

That little fellow would never have made such a mess of his 'business' as did a street urchin who made his first appearance on any stage under the auspices of Mr J. C. Williamson, when the latter was playing *Struck Oil* in a country town.

Led on by the ear by Lizzie Stofel, and asked: 'What for you call me Dutchy?' the debutant blurted out: 'Cause you told me to!'—to the immense delight of the house. As soon as the act was over, he was told he might go in front; and before any one could stop him, he pulled back the curtain, climbed over the footlights into the orchestra, and coolly left the theatre.

At a performance of *Norma* at the Cork Theatre, in which Cruvelli played the heroine, the little daughters of the carpenter were pressed into service to represent the children of the priestess. As the curtain drew up on the second act they were seen lying on Norma's couch quiet enough, for they were frightened nearly to death by the glare of light, the noise in front, and their unaccustomed surroundings. Their fright increased as Norma vented her jealous rage in recitative; and when, dagger in hand, she rushed towards them, they gave a shriek, tumbled off their couch, and ran off the stage as fast as their legs would take them, while the theatre rang with laughter, and Norma herself was fain to sit down until she had recovered from the effect of the unexpected episode.

Boleño the clown never evoked heartier merriment than that caused by his first appearance in public as one of the 'principal waves' in the nautical piece *Paul Jones*. It was at Sadler's Wells Theatre, soon after the 'real water,' for which that house was long famous, had given place to the conventional canvas sea with its wave-rolling boys underneath. The last scene represented the ocean, bearing on its expanse of waters two ships preparing for action. The waves rolled as the boys bobbed up and down, and all would have gone well, had not Master Harry discovered a small hole in the canvas above him. Into this hole he put two fingers, intending to take a peep at the front of the house. The rotten stuff gave way; the waters of the Atlantic divided, and disclosed a small head besmeared with blue paint—the result of friction against the painted cloth. Catching sight of this, young Joe Grimaldi, who was the captain in command of one of the vessels, called out: 'Man overboard!' while the stage-carpenter shook his fist at the appalled offender, causing that luckless young rascal to disappear from view, and bob with such vigour at a remote distance, that a sudden storm seemed to have broken over the ocean far away.

An American critic, disgusted with the mob in *Julius Caesar*, when that play was acted lately at Booth's Theatre, because they shewed no discrimination, cheering the meanest soldier walking in procession, while they let Caesar and Antony go by unrecognised, insists upon the supernumeraries being better taught. It is certainly the duty of the stage-manager to see that they are properly instructed, but it is no use to ask too much of them; like the actor-manager who called upon his supers to assume an oily smile of truculent defiance; and the author of *Jeanne d'Arc*, who in his stage directions requires the representatives of the English spectators at the procession to the pyre to give vent to a buzz and murmur of hatred and exultation; and the representatives of the Amazon's countrymen to express their feelings in a buzz and murmur of love, pity, and sympathy. Such exacting gentlemen remind one of the French manager who fined one of the

supernumeraries engaged in *Paul et Virginie* for not making himself black enough, and afterwards discovered that the man he had fined was a nigger born.

### THE MONTH:

#### SCIENCE AND ARTS.

THE paragraphs on the use of zinc as a preventive of scale in steam-boilers, in the *Month* for March last (*ante* 207), have brought us many inquiries for further particulars. One correspondent wishes to know what length of time the lump of zinc will last? to which we answer, that on this point there is nothing more precise in the original Report than that the zinc lasts the usual time of working the boiler between the periods of cleaning. The zinc is more efficacious in the form of an ingot or solid lump, than when small heaps of clippings are employed; and we cannot imagine that it would be difficult for any intelligent person to determine by observation the dissolution of the zinc.

The theoretical explanation of the preservative action is, that in the process of oxidation the zinc borrows oxygen from the air dissolved in the feed-water only. The two metals, zinc and iron, surrounded by water at a high temperature, form an electrical 'pile' with a single liquid which slowly decomposes the water. The oxygen flies to the most oxidisable metal, the zinc, while the hydrogen is set free on the surface of the iron. This release of hydrogen goes on over the whole extent of the iron in contact with the water, and the minute bubbles of this gas isolate at each instant the sides of the boiler from the incrusting substance. If the quantity of this substance is small, it becomes so penetrated by the bubbles that it remains soft as mud; and if in greater quantity, coherent incrustations are formed, but in such a state of isolation as to be readily separated from the iron.

This remarkable action of zinc was first discovered in 1861, during the repair of a steam-vessel at Havre; and since then it has with approval been taken into use in some of the large manufacturing establishments of France. Readers desirous of consulting the original Report will find it in the *Bulletin de la Société d'Encouragement pour l'Industrie Nationale*, No. 51, March 1878, which may be obtained through Messrs Trübner, the well-known London publishers, or any foreign bookseller.

The Institution of Mechanical Engineers have published their usual yearly list of subjects on which they would be glad to have papers for reading at their meetings. As may be supposed, their scheme includes all branches of mechanical engineering; but we mention a few as likely to occupy the attention of some of the many ingenious artificers who are always inventing or improving. For example, there are hot-air engines, engines worked by gas, and electro-magnetic engines. Corn-mills, results of working with an air-blast and ring-stones. Flax, lace, and knitting machin-

ery. Wood-working machines, for morticing, dovetailing, planing, rounding, surfacing and copying. Paper-making and paper-cutting machines. Machines for printing from engraved surfaces, and type-composing and distributing machines. Best plans for seasoning timber and cordage. Ventilation of mines. Prevention of rust in iron ships and tanks; and a way to diminish the dead-weight in railway trains.

One of the subjects is improvements in lighthouses; by which we are reminded that a new lighthouse at the Eddystone is talked of. The present structure was built by Smeaton in 1756-59; and ever since, as long before, as indicated by the name, the sea has been wearing away the rock on which it stands, and now threatens to undermine the foundations. The new tower would be built on an adjacent rock with, as we may easily believe, all the best improvements in construction and lighting.

Descriptions have been given at meetings of the Institution of machines for pressing cotton in bales for shipment. Some machines will press twice as much cotton into a bale of given size as others; which effects an important economy as regards stowage and in cost of packing, for it is estimated that the outlay for fuel for the pressing engine amounts to only a penny a bale.

Messrs Siemens' improvements in the dynamo-electric machine appear likely to settle the question as regards transmission of mechanical power to long distances. Given the power to work one machine, it can be transmitted by wires to a second, from that to a third, and so on continuously through many miles. A waterfall or steam-engine of one hundred horse-power working the first machine in the series would produce fifty horse-power at a distance of thirty miles. Hence it would be possible to grind wheat, to shape iron in a lathe, to saw wood, or weave cotton by machinery, in a district where all the coal was exhausted. This consideration ought to be appreciated by the people who imagine that our coal-fields will all too soon be dug completely out. Another advantage of the dynamo-machine is that if thrown out of gear for a few minutes or for a longer time there is no loss or waste of power.

Considering that slag can be made into glass, and that slag is a disagreeable encumbrance which many manufacturers would gladly get rid of, a suggestion has been offered that, instead of being made of metal, tanks and cisterns should be made of slag glass, in a single casting. There would then be no leaky joints, no unpleasant taste from paint or metal; cleaning would be easy; and if large dimensions were required, a number of small tanks might be placed side by side, and connected by slag-glass tubes. When this suggestion comes to be adopted, there will be no need to inquire about prevention of rust in tanks, nor to be timorous of lead-poisoning.

Very tedious is the work of reducing tables of observations to their true value, whatever their nature. Observations of tides are no exception; and as their reduction is of great importance in working out a true theory of the tides, attempts have been made to accomplish the tedious task by machinery, and at length with success. Sir William Thomson, of the University of Glasgow, has now constructed what he calls an 'harmonic analyser,' with which he can work out the analyses



of a twenty-four-hour tide-curve in about a minute. It is usual in taking tidal observations that the gauge records the rise and fall in the twenty-four hours in the form of a curve on a sheet or roll of paper; and the labour of analysing the sheets of a whole year may be imagined. But, as Sir W. Thomson's machine will clear sixty or more sheets in an hour, a year's work may be satisfactorily disposed of in half a day. This will indeed be good news to the able investigators who have for some years investigated the voluminous series of arctic tides, and are still far from completion. Their work will be greatly simplified; but the machine by which this happy result is achieved involves some of the most refined principles in natural philosophy.

'The Worshipful Company of Turners' of the City of London have published their list of prizes for the present year, stating the conditions on which they will grant the freedom of the Company, and of the City if the Court of Aldermen agree, and sums of money and medals to successful competitors. Any one skilful in turning in wood, throwing and turning in pottery, and in diamond cutting and polishing, is qualified to compete, but will be expected to remember that 'beauty of design, symmetry of shape, utility, and general excellence of workmanship,' are qualities which will be considered in awarding the prizes. The specimens are to be delivered at the Mansion House, London, within the first week of October next.

Mr Du Moncel, in discoursing on the phonograph to a scientific Society in Paris, suggested that by successive improvements the instrument would be made capable of recording a speech with all the intonations of the speaker; and that sheets of phonographic music might be kept in a portfolio for the entertainment of amateurs many years after the air was first played or sung. But while waiting for that result, there might be contrived a clock which would speak, instead of striking the hours. Such a clock would announce one o'clock, two o'clock, as the hours passed by, and might be made to say *Time to get up*, at any required moment. But this is a trifle in comparison with what is reported from the United States—namely that steam has been applied to the phonograph, and that a locomotive provided with the proper apparatus can talk messages which would be heard at some miles' distance. In the Crystal Palace at Sydenham we lately saw the cylinder of the instrument made to revolve by clockwork. The result was that words and songs were reproduced with much more regularity than by the ordinary handle, as hitherto turned by the operator. As yet, however, much remains to be done before a speech or a song, as spoken or warbled into the instrument, shall be reproduced with faultless exactitude. As with the telephone, so is it with the phonograph—there is still a lack both of sound-volume, and quality.

Mr N. J. Holmes, well known as a scientific inventor and electrician, has brought out a portable self-igniting beacon, which may be placed on a wreck, a buoy, or in any position where a flashing signal is required, and render good service. When in use, it lights itself at any given moment; when once alight, cannot be put out by wind or water, will keep burning from fifteen to twenty hours, and shew itself by a flash every half-minute.

Flashing signals are sometimes wanted inland, far away from the sea; but along the coast an appliance that can be carried from place to place with a certainty that it will act as required, can hardly fail to be appreciated.

In a communication to the National Academy of Sciences, New York, Mr Le Conte treats of the 'glycogenic function of the liver and its relation to vital force and vital heat,' in a way which will perhaps be interesting to many readers. In the ordinary process of nutrition much sugar is formed in the body: if the health be good, the whole of the sugar is arrested in the liver, changed into a less soluble substance nearly related to sugar—namely glycogen, and is thus withdrawn from circulation and stored in the liver. This store is slowly rechanged into the oxidable form of liver-sugar, and is re-delivered, little by little, to the blood by the hepatic vein, as the necessities of combustion for animal heat and vital force require. The sole object of the glycogenic function of the liver is to prepare food and waste tissue for final elimination by lungs and kidneys; to prepare an easily combustible fuel, liver-sugar, for the generation of vital force and vital heat by combustion, and at the same time a residuum suitable for elimination as urea. Glycogen-making is a true vital function; sugar-making is a pure chemical process. The former is an ascensive, the latter a descensive metamorphosis.

Mr Le Conte continues: In the well-known and usually fatal disease diabetes, sugar is excreted in large quantities by the kidneys. But the kidneys are not the organ in fault: they do all they can to remedy the evil by getting rid of the sugar which, in the blood, is extremely hurtful. In such cases the liver is in fault, and seems to have lost its glycogen-making power. It has been proved that an excess of sugar in the blood produces, among other hurtful effects, cataract and blindness. The cataract so common among diabetic patients is thus accounted for; and it is obvious that the physiologist who will discover a way to keep going the glycogen-making function of the liver will be a benefactor to the human race.

Well worth reading is Professor Boyd Dawkins' *Preliminary Treatise on the Relation of the Pleistocene Mammalia to those now living in Europe*, published by the Palæontographical Society. It makes clear the evidence by which the relationship has been established, and abounds with interesting and remarkable facts in the history of the animals of Europe. For example, the reindeer lingered in Caithness down to the twelfth century, and, as Professor Dawkins observes, we see 'that it ranged still farther south in the Prehistoric age, and ultimately in the Pleistocene, it reached the Alps and Pyrenees. It is surprising,' he continues, 'that the lion, the panther, and the ursus are the only three mammals which have been exterminated in Europe. The principal interest centres in the domestic animals. The fact that the ursus breed was introduced into Britain by the English is most important for the student of history. The distribution of the fallow-deer was due to the direct influence of the Roman power; while the northward distribution of the cat stands in direct relation to the intercourse which the people of France, Germany, and Britain had with the south and east of Europe.'

Mr Meldrum of the Royal Alfred Observatory, Mauritius, whose researches we have from time to time noticed, reiterates the expression of his opinion on the sunspot and rainfall question, and shews as the result of observation that there is a rainfall cycle for Europe and America as well as for India. 'I long ago,' he remarks, 'obtained similar results for India, Mauritius, the Cape, and Australia, as well as for the depths of water in the Elbe, Rhine, Oder, Danube, and Vistula, and have shewn that the mean rainfall curve for the mean sunspot cycle of eleven years exhibits the characteristics of the mean sunspot curve.' Mr Meldrum is satisfied that he has 'evidence of a connection between sunspots and rainfall nearly, if not fully as strong as the evidence of a connection between sunspots and terrestrial magnetism.' There are many anomalies; but 'underlying them all, and pervading them all, a well-marked rainfall cycle is assuredly to be found, especially for Europe, where the observations are most numerous.' It would be interesting to have a satisfactory proof that these theories are correct.

In 1874 the difference of longitude between Greenwich and Suez was determined under instructions from the Astronomer-royal. Since then, as we learn from Colonel Walker's Report on the Trigonometrical Survey of India, the differences between Bombay, Aden, and Suez have been determined, and the connection between England and India is now complete. In these later observations, clocks were compared through the telegraph cables, which effectually eliminated the 'personal equation' from the numerical result. 'It is believed,' says Colonel Walker, 'that this is the first instance of such perfection of method having been attained.'

A Report on the Progress and Resources of New South Wales, by Mr C. Robinson, published at Sydney, states that the estimated area of Australia is three million square miles, of which the colony in question occupies 323,437 square miles—that the population in 1871 was 501,579—that the clip of wool in 1876 amounted to 73,147,608 pounds—that the sugar-crop for 1875 was more than fifteen million pounds—that one seam of coal will yield 84,208,298,667 tons—that a bed of kerosene oil shale will turn out 2000 gallons of refined oil every week for seventy-two years—that in all (up to 1874) 12,387,279 tons of coal had been raised, and that the total weight of gold produced was 8,205,232 ounces. Add to this the other minerals, and ships, corn, wine, and cattle, and it will be seen that New South Wales may look forward with confidence to the time when, should the population become as dense as in England, it will contain within its borders a hundred million souls.

From a recently published Report we learn that the population of Tasmania is more than one hundred and four thousand, and that the total area of the island is nearly seventeen million acres, great part of which is suitable for the growth of wheat and other grain. Less hot and dry than Australia, Tasmania (or Van Diemen's Land, as it was formerly called) has a very salubrious climate, and is, we are informed, 'an excellent breeding-station for stud stock for all the Australian continent, especially as regards animals of large muscular development, and of the hardy constitution so requisite in the ox, the mutton-sheep, and the

draught-horse.' The best evidence that the Tasmanian climate deserves all that has been said in its favour is to be found in the fact, that the mortality of children, especially of infants under twelve months, is very small.

### THE TWO ROSES.

Two roses once in my garden grew :  
The one was brilliant and rich of hue ;  
Proud of her beauty and perfume rare,  
She spread her sweets to each passing air :  
The other, timid and chaste of mind,  
Shrank from the kiss of the fickle wind ;  
Proud in the pride of her virtue meek,  
She veiled the blush on her modest cheek.

Dazed with the glare of her gaudy bloom,  
Drunk with the breath of her rich perfume,  
I tended the one with ceaseless care ;  
I marked the growth of each beauty rare,  
And dreamed that all on some future day  
Would own the power of her peerless sway.

At length my flower, that I loved the best,  
I sought to take and wear on my breast,  
That won from her parent stem to part,  
She might rest awhile on my loving heart.  
But frown was the lure of her witching spell,  
As fluttering to earth her petals fell ;  
Her heart was rotten and dead at the core—  
And I knew that my foolish dream was o'er.

I saw how poor was the full-blown blaze  
That had charmed my senses and won my praise ;  
And I thought at last of the timid flower  
Which had pined unheeded for cooling shower,  
But drought unslaked had her life-spring dried ;  
So, fading and faded, she drooped and died.

I saw too now, with awakening eyes,  
How near I had been to my longed-for prize ;  
One half of the care I had spent in vain—  
Care that had brought me but grief and pain—  
If spent on the rose that had pined away,  
Would have reared a flower so chastely gay,  
That the joy of its countless charms untold  
My care had repaid a thousandfold.

Ah ! how oft in the toil and strife,  
The chances and changes which we call life,  
By slight and neglect in time of need,  
We kill the flower, and we rear the weed ;  
Then when we see it, and know too late,  
We blame not ourselves, but curse our fate,  
For no solace have we on which to lean,  
When we know what we long for might have been.

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2d. To insure the return of papers that may prove ineligible, postage-stamps should in every case accompany them.

3d. MANUSCRIPTS should bear the author's full Christian name, surname, and address, legibly written.

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